Merchant Banking: Past and Present

by Valentine V. Craig*

and risky—endeavor for the small number of bank holding companies and banks that have engaged in it under existing law. Recent legislation has expanded the merchant-banking activity that is permissible to commercial banks and is therefore likely to spur interest in this lucrative specialty on the part of a greater number of such institutions. Although for much of the past half-century commercial banks have been permitted (subject to certain restrictions) to engage in merchant-banking activities, the term *merchant banking* itself is undefined in U.S. banking and securities laws and its exact meaning is not always clearly understood.

This article begins by defining merchant banking and provides a short history of it. The article then looks at the private equity market in the United States, examining that market in terms of its evolution, typical uses of funds, and forms taken by the investments. (In examining the private equity market, one needs to be aware that the private equity market is, in fact, private. Data are limited and could be subject to error.) Discussed next is commercial bank involvement in merchant banking: the structure of commercial bank involvement, the evolution of that involvement, and the recent track record. The major provisions of the Gramm-Leach-Bliley Act of 1999, legislation which authorizes financial holding companies to engage in merchant banking, is looked at next. The final section focuses on the relationship among merchant banking, risk, and the regulators.

Definition and Early History of Merchant Banking

Although not defined in U.S. federal banking and securities laws, the term merchant banking is generally understood to mean negotiated private equity investment by financial institutions in the unregistered securities of either privately or publicly held companies. Both investment banks and commercial banks engage in merchant banking, and the type of security in which they most commonly invest is common stock. They also invest in securities with an equity participation feature; these may be convertible preferred stock or subordinated debt with conversion privileges or warrants. Other investment bank services—raising capital from outside sources, advising on mergers and acquisitions, and providing bridge loans while bond financing is being raised in a leveraged buyout (LBO)—are also typically offered by financial institutions engaged in merchant banking.

Merchant banks first arose in the Italian states in the Middle Ages,¹ when Italian merchant houses generally small, family-owned import-export and commodity trading businesses—began to use their excess capital to finance foreign trade in return for a share of the profits. This trade generally consisted of lengthy

^{*} Valentine V. Craig is a Chartered Financial Analyst in the FDIC's Division of Research and Statistics. The author gratefully acknowledges the comments of the FDIC's Legal Division in preparing this article.

¹ Much of the history of merchant banking is derived from Banks (1999).

sea voyages. Thus, the investments were very high risk: war, bad weather, and piracy were constant threats, and by their nature the voyages were long-term and illiquid.

Later, the center for merchant banking shifted from the Italian states to Amsterdam and then, in the eighteenth century, to London, where immigrants from Prussia, France, Ireland, Russia, and the Italian states formed the core of early British merchant banking. Like the Italian and Dutch houses before them, these British houses were generally small, family-owned partnerships, and most of them continued both to trade for their own businesses and to finance the trading by others. By the end of the eighteenth century, however, the British merchant houses had increased in size and sophistication and began specializing in trade, marketing, or finance. As the nineteenth century opened, virtually no mercantile houses remained focused on both trade and finance.

The Private Equity Market in the United States

The private equity market in the United States has evolved over the years, with financial institution involvement only becoming significant in the 1960s and 1970s. Where these funds are invested also has changed over time. Currently, most private equity funding is used to fund start-up or early-stage companies or to bring large public companies private. Private equity investments can be made through limited partnerships or they can be direct investments. Subsidiaries of banking organizations are probably the largest direct investors in this market.

Evolution of the Private Equity Market

Given its history, merchant banking is often thought of as a European, and especially British, financial specialty, and British institutions continue to maintain a major presence in this area. Since the 1800s and even earlier, however, U.S. firms (such as J.P. Morgan) also have been active in merchant banking. However, although both investment banks and commercial banks, as well as other types of businesses, have been authorized to engage in private equity investment in the United States, financial institutions have not been major providers of private equity.

Until the 1950s, U.S. investors in private equity were primarily wealthy individuals and families. In the 1960s and 1970s, corporations and financial institutions joined them in this type of investment. (In the

1960s, commercial banks were the major providers of one kind of private equity investing, venture-capital financing.) Through the late 1970s, wealthy families, industrial corporations, and financial institutions, for the most part investing directly in the issuing firms, constituted the bulk of private equity investors.

In the late 1970s, changes in the Employee Retirement Income Security Act (ERISA) regulations, in tax laws, and in securities laws brought new investors into private equity. In particular, the Department of Labor's revised interpretation of the "prudent man rule" spurred pension fund investment in private equity capital.² Currently, the major investors in private equity in the United States are pension funds, endowments and foundations, corporations, and wealthy investors; financial institutions both commercial banks and investment banks represent approximately 20 percent of total private equity capital, divided approximately equally between the two. The U.S. Department of the Treasury (Treasury) estimates that at year-end 1999, commercial banks accounted for approximately \$35 billion to \$40 billion, and investment banks for approximately another \$40 billion, of the \$400 billion total investment in the private equity market.

At \$400 billion as of year-end 1999, the private equity market is approximately one-quarter the size of the commercial and industrial bank-loan market and the commercial-paper market.³ In recent years, funds raised through private equity have approximately equaled and sometimes exceeded funds raised through initial public offerings and public high-yield corporate bond issuance.⁴ The market also has grown dramatically in recent years, increasing from approximately \$4.7 billion in 1980 to its 1999 figure. Despite this tremendous growth, the private equity market is extremely small compared with the public equity market, which was approximately \$17 trillion at year-end 1999.

Typical Uses of Private Equity

Private equity financing is an alternative to raising public equity, issuing public debt, or arranging a private placement of debt or bank loan. The reasons

² The "prudent man rule" refers to the fiduciary responsibility of investment managers. In the earlier interpretation, each investment in a portfolio was expected to meet safety standards in and of itself. Under the revised interpretation, the Department of Labor accepted the concept of portfolio diversification of risk, thereby permitting portfolio managers to invest a small portion of the portfolio in riskier investments as long as the portfolio in the aggregate met fiduciary standards of risk.

³ Fenn, Liang, and Prowse (2000).

⁴ Ibid.

Table 1
U.S. Private Equity Funds Raised by Year
(\$ Billions)

Year	Total Private Equity	Venture Capital	Buyout/Mezzanine Financing ^a	Other
1999	\$108.1	\$46.6	\$44.6	\$16.9
1998	105.4	28.0	61.2	16.3
1997	73.8	15.7	48.7	9.4
1996	45.2	10.6	29.8	4.9
1995	41.1	8.2	27.3	5.6
1994	30.9	7.2	20.5	3.2
1993	22.0	3.9	16.9	1.2

Source: Venture Economic News.

^aMezzanine financing generally consists of subordinated debt with equity conversion privilege or warrants issued in tandem with the equity issue in a buyout.

companies seek private equity financing are varied. For example, other forms of financing may be unavailable or too expensive because the company's track record is either nonexistent or poor (that is, the company is in financial distress). Or a private company may want to expand or change its ownership but not go public. Or a firm may not want to take on the fixed cost of debt financing.

Public firms may seek private equity financing when their capital needs are very limited and do not warrant the expense, time, and regulatory paperwork required for a public issue. They also may seek private equity to keep a planned acquisition confidential or to avoid other public disclosures. They may use the private equity market because the public market for new issues in general is bad or because the public equity market is temporarily unimpressed with their industry's prospects. Finally, very often in recent years, managements of large public firms have felt their firms will benefit from a change in capital structure and ownership and will choose to go private by means of a leveraged buyout (LBO).⁵

Although companies seek private equity for all these reasons, most private equity funding has been used for one of two purposes: to fund start-up or early-stage companies (venture capital) or to bring large public companies private in LBOs. Of the \$400 billion in outstanding private equity investment at year-end 1999, venture-capital investments accounted for approximately \$125 billion and nonventure-capital investments for approximately \$275 billion. LBOs were by far the most common use of nonventure-capital private equity.

Table 1 provides estimates of the private equity raised, and its uses, for each year from 1993 to 1999. From the table one can see that private equity investment increased substantially over this seven-year period, going from \$22 billion raised in 1993 to over \$108 billion raised in 1999. In 1999, for the first time since 1985, venture-capital fundraising accounted for a larger percentage of total private equity fundraising than buyout/mezzanine financing. Before the mid-1980s, two-thirds of private equity investments were used to finance venture-capital investments.

Forms Taken by Investments

Currently, more than 80 percent of private equity investments are made by limited partnerships, with professional private equity managers acting on behalf of institutional investors. In a limited partnership, the professional equity managers serve as general partners, and the institutional investors serve as limited partners. The general partners manage the investment and contribute an insignificant part of the investment, generally approximately 1 percent. These limited partnerships have a contractually fixed life, usually ten years. The investments are highly illiquid over the partnership's life, with a return not expected until the partnership's later years, when the business

⁵ A leveraged buyout is the purchase of a company's stock or assets by a very leveraged acquirer, one whose debt financing is based solely on the value of the acquired firm. The LBO began as a means for the owners of small, privately held companies to cash out and shift ownership to family or management when these buyers did not have much equity capital (the major LBO transactions of the 1970s). Today's LBOs more typically involve bringing large public companies private, with a small group of investors acquiring most of a firm's common stock and issuing a combination of private equity and a large amount of debt, much of it junk bonds.

is sold through a public offering or a private sale, or the shares are repurchased by the company. Banks (through subsidiaries) often act as limited partners in private equity limited partnerships, and infrequently as general partners.

Direct investments in private equity are made also. Through subsidiaries, bank holding companies and banks are probably the largest direct investors in the private equity market.

Commercial Bank Involvement in Merchant Banking

Commercial banks have historically utilized Small Business Investment Corporations (SBICs) or "5 percent subs" (defined below) for their domestic private equity investments, and Edge Act Corporations or foreign subsidiaries to make their foreign private equity investments. Several very large bank holding companies have come to dominate merchant banking, directing as much as 10 percent of their capital to these activities. For the most part, reported earnings from these merchant-banking activities have been very good.

Structure

Before passage of the Gramm-Leach-Bliley Act (GLBA), commercial banks and bank holding companies (BHCs) had two primary vehicles for making private equity investments in domestic corporations. They could make these investments through SBICs and/ or through "5 percent subs." Typically, banks engaged in domestic merchant banking have used both of these vehicles; for equity investments in foreign companies, they have used foreign subsidiaries or Edge Act Corporations. As mentioned above, although these subsidiaries have sometimes organized limited partnerships in which they acted as general partners, more often they have invested directly in private equity or have acted as limited partners in a partnership.

Small Business Investment Corporations. SBICs were authorized by the Small Business Investment Act of 1958 to promote small-business equity funding. This act authorized BHCs and banks to provide equity capital to small companies through SBICs, which can be subsidiaries of either BHCs or banks. A very significant percentage of the largest SBICs are subsidiaries of banks rather than of BHCs.

Investments in SBICs are direct and subject to certain limits. Banks are allowed to invest only 5 percent

of their capital and surplus in their SBICs; bank holding company investments are capped at 5 percent of the BHC's interest in the capital and surplus of its subsidiary banks. The investments of the SBICs also are limited. Investments can be made only in companies with pre-investment net worth of no more than \$18 million, and each investment is capped at 50 percent of the recipient's outstanding shares of stock.

5 Percent Subs. The Bank Holding Company Act of 1956 permitted bank holding companies to make passive equity investments in nonfinancial companies. Specifically, the legislation allowed bank holding companies to own a maximum of 5 percent of the voting shares (hence the "5 percent sub" designation) and a maximum of 25 percent of the total equity of companies engaged in any activity. There is no limit on the total amount of equity that a BHC can invest through all of its 5 percent subs.

Because these investments are passive equity interests only, bank holding companies often have used unregulated independent general partners to oversee them. And because of the 5 percent sub investment limits, in the case of growing businesses 5 percent subs often have been forced to raise outside capital and limit their role to that of a minority investor or agent.

Foreign Subsidiaries or Edge Act Corporations. As mentioned above, banks have made private equity investments in foreign firms through foreign subsidiaries of bank holding companies or through Edge Act Corporations, which are generally organized as bank subsidiaries. Edge Act Corporations are permitted to own up to 20 percent of the voting shares or 40 percent of the total equity of a foreign company.

Evolution

A few very large BHCs dominate merchant banking, directing as much as 10 percent of their capital to these activities. Citigroup, Chase, Bank of America, FleetBoston, and Wells Fargo have the largest presence in this area. In 1999, Chase, FleetBoston, Wells Fargo, J.P. Morgan, and First Union reported an aggregate investment of over \$5 billion in venture-capital investments, and they expect to continue to expand this area of their business.⁶

⁶ What's Really Driving Banks' Profits (2000).

Many banks entered merchant banking in the 1960s to take advantage of the economies of scope produced when private equity investing is added to other bank services, particularly commercial lending. As lenders to small and medium-sized companies, banks become knowledgeable about individual firms' products and prospects and consequently are natural providers of direct private equity investment to these firms. As mentioned above, commercial banks were the largest providers of venture capital in the 1960s.

In the middle to late 1980s, the decision to enter merchant banking was thrust on other banks and bank holding companies by unforeseen events. In those years, as a result of the LDC (less-developed-country) debt crisis, many banks received private equity from developing nations in return for their defaulted loans. At that time, many of these banks set up merchant-banking subsidiaries to try to get some value from this private equity.

Also at about that time, most commercial banks began refocusing their private equity investments to middle-market and public companies (often low-tech, already profitable companies) and, rather than providing seed capital, financed expansion or changes in capital structure and ownership. Most particularly, they took equity positions in LBOs, takeovers, or recapitalizations or provided subordinated debt in the form of bridge loans to facilitate the transaction. Often they did both. Commercial banks financed much of the LBO activity of the 1980s.

Then, in the mid-1990s, major commercial banks began once again focusing on venture capital, where they had substantial expertise from their previous exposure to this kind of investment. Some of these recent venture-capital investments have been spectacularly successful. For example, the Internet search engine Lycos was a 1998 investment of Chase Manhattan's venture-capital arm.

Recent Track Record

Commercial banks are permitted to report either realized or unrealized gains on their merchant-banking portfolios, as long as they are consistent in the reporting. This option makes it difficult for one to compare different entities' financial results and could lead to an overly liberal reporting of profits. However, the Federal Reserve Board (FRB) generally considers bank holding companies that are engaged in merchant banking to have reported their earnings conservatively on these equity investments.

These reported earnings have been good. The FRB estimates that revenue from private equity investment for the small number of BHCs with a significant presence in this field8 was approximately 12 percent to 13 percent of total BHC net income in the three-year period from 1995 through 1997. The FRB further estimates that rates of return on merchantbanking activities have averaged approximately 30 percent annually over the past five years. Another source, the National Venture Capital Association, estimates an overall 85 percent rate of return for venture capital funds invested in early-stage companies in 1999.9 Most bank subsidiaries' venture-capital investments have recently been averaging returns of approximately 40 percent, compared with 10 percent to 15 percent on commercial lending. 10

The merchant-banking subsidiaries of Chase, Wells Fargo, J.P. Morgan, First Union, and FleetBoston reported in the aggregate \$5 billion in net income for 1999. Chase's merchant-banking subsidiary Chase Capital Partners reported \$2.5 billion in net income in 1999—22 percent of Chase's total reported net income. Wells Fargo's merchant-banking activities accounted for 13 percent of its 1999 reported income; J.P. Morgan's for 15 percent; First Union's for 8 percent; and FleetBoston's for 9 percent.

These merchant-bank subsidiary returns are particularly good when one considers that merchant banking requires very low overhead. For instance, Wells Fargo has 92,000 employees, but only 14 partners ran its merchant-bank subsidiary, which was responsible for 16 percent of Wells Fargo's total fourth-quarter 1999 net income. Similarly, First Union has 70,000 employees, but only 16 people conducted its merchant-banking activities, which brought in 13 percent of First Union's fourth-quarter 1999 net income.¹¹

With the long bull market in stocks—and a particularly hot IPO market for technology stocks in 1999—BHC merchant-banking subsidiaries have increased their venture-capital investments in recent years. As already mentioned, Chase, Wells Fargo, J.P. Morgan, First Union, and FleetBoston invested over \$5 billion

⁷ Unrealized gains generally occur after a company has an initial public offering (IPO) but the stock has not been sold because of its lock-up period. A bank would typically apply a discount, or "haircut," to the value of the unsold IPO shares to account for volatility, with the gain being the difference between this discounted value and the investment's cost.

 $^{^{\}rm 8}$ The FRB does not identify the institutions or their individual financial information.

⁹ The New York Times (1999).

¹⁰ What's Really Driving (2000).

¹¹ Ibid.

in venture-capital investments in 1999 and plan to continue to expand this area of their business. Chase alone has tripled its venture-capital investments since 1996.¹²

The Gramm-Leach-Bliley Act of 1999

To some extent, commercial bank activities have history.13 been restricted throughout U.S. Restrictions of particular importance to banks' merchant-banking activities are contained in the 1933 Glass-Steagall Act, 14 which formalized the separation between commercial banking and certain investmentbanking activities. Blaming bank failures of the 1930s on the banks' speculative securities activities, Congress passed this legislation to draw a firm line between commercial and investment banking. Although there is little evidence that the investmentbanking activities of commercial bank affiliates actually were a major factor in the bank failures of that time, differences of opinion have continued to exist between those who seek to exclude commercial banks from investment-banking activities and those who favor permitting such activities. GLBA, enacted on November 12, 1999, specifically recognizes merchant banking as an activity "financial in nature" and provides authority to financial holding companies (FHCs) to provide merchant-banking services. (The legislation does not define merchant banking.) To qualify as a financial holding company, a bank holding company and all of its insured depository subsidiaries must be well-capitalized and well-managed Community Reinvestment Act rating must be at least satisfactory. According to the FRB, as of May 2000, 270 domestic banking institutions and 17 foreign banking organizations had filed to become financial holding companies.15

GLBA specifically authorizes FHCs to "directly or indirectly acquire or control any kind of ownership interest in an entity engaged in any kind of trade or business whatsoever" if (1) the shares are purchased and held through a securities affiliate or "an affiliate thereof" of the FHC; (2) the shares are held for the sole purpose of appreciation and ultimate resale; and (3) the FHC does not routinely manage the company in which it has invested except as necessary to obtain an ultimate reasonable return on investment.

Maintaining the historical separation between banking and commerce, this legislation specifically disallows routine management by the FHC subsidiary of the nonfinancial company in which it has invested. These investments are for investment purposes only and are not to be used as a back door for the holding company to control or operate a commercial business. This legislation also prohibits subsidiaries of banks from engaging in merchant-banking activities, although that prohibition may be reexamined by the FRB and the Treasury in 2004.

Under the new law, FHCs' portfolio investments in nonfinancial companies are not limited to the 5 percent sub limits restricting control of the portfolio company. In a major departure from existing policy regarding 5 percent sub investments, GLBA provides that investments made under the new law need not be passive; FHCs may in fact purchase a controlling interest in a company. Nor does GLBA restrict these merchant-banking subsidiaries to SBIC investment limits on the size of the company in which the SBIC can invest, on the percentage of shares that can be owned, and on the amount of BHC or bank capital devoted to these investments.

Final Word: Attention to Risk

GLBA opens up new opportunities for commercial banks that wish to enter or expand their merchantbanking activities. For the most part, pre-GLBA commercial bank merchant-banking activities were very lucrative, and often spectacular. However, in the years 2000-2001 the stock market and the IPO market became substantially more volatile. It is hoped that this greater volatility will emphasize to newer merchant-banking participants the risky nature of this market. Participants might also pay heed to the fact that in the not-so-distant past some financial institutions engaged in merchant banking suffered substantial losses, albeit in their nonventure-capital investments. In particular, in 1990, with the collapse of Drexel Burnham Lambert and the junk-bond market. First Boston's losses were so severe that Credit Suisse, its parent, had to launch a multimillion-dollar rescue. In that same year, Merrill Lynch left the merchant-banking business altogether.

The FRB and the Treasury have been concerned with the increased risks to which merchant-banking activities expose commercial banks. Although GLBA

¹² Ibid.

¹³ For more information on this issue, see Blair (1994).

¹⁴ Sections 16, 20, 21, and 32 of the Banking Act of 1933 are commonly referred to as the Glass-Steagall Act.

¹⁵ Ferguson (2000).

was largely silent on limitations to banks' merchant-banking activities, the FRB and the Treasury have not been. On March 17, 2000, the FRB and the Treasury jointly adopted an interim rule implementing the merchant-banking authority of the GLBA: the interim rule placed a cap on the amount of merchant-banking investments that financial holding companies may hold. Specifically, the interim rule placed an aggregate limit of \$6 billion or 30 percent of Tier 1 capital on the amount the FHC may devote to merchant-banking activities. In addition, the interim rule required that investments be sold within ten years—although this time limit could be extended on a case-by-case basis.

Merchant-banking participants expressed vehement opposition to the FRB-Treasury interim rule's restrictions on the amount and time limit of merchant-banking investments. On January 10, 2001, the FRB and the Treasury issued a final rule replacing the earlier interim rule. The final rule removed the \$6 billion cap on merchant-banking investments of financial holding companies. Although the final rule maintained the ten-year limit on investments, the rule simplified ways to obtain extensions to this limit.

The FRB also offered for comment last year a proposal that would have required FHCs to set aside significant capital for their merchant-banking investments. A capital charge of 50 percent on all nontrade-account equities held by banking organizations was proposed. Merchant-banking participants expressed particular opposition to this proposed rule. On January 18, 2001, the FRB released a revised proposal. It proposed a sliding scale tying a company's capital requirements to the amount of its equity investments in nonfinancial companies. The proposed scale ranges from an 8 percent capital charge for equity investments of up to 15 percent of Tier I capi-

tal; a 12 percent capital charge for equity investments of between 15 percent and 25 percent of Tier I capital; and a maximum 25 percent capital charge for those banking companies with equity investments exceeding 25 percent of Tier I capital. These capital charges also are to be applied to equity investments by banks and BHCs made under other authorities besides GLBA. An exception applies to SBIC investments. Under the proposal, no capital charge would be required for SBIC investments if they do not exceed 15 percent of the organization's capital. The FRB also issued regulations prohibiting FHCs from crossmarketing with any company in which the BHC makes a merchant-banking investment that exceeds 5 percent of the company's equity.

Observers will be paying close attention to how the FRB proceeds regarding FHC merchant-banking activity, as this represents the latest chapter in the debate over the mixing of banking and commerce in the United States. How banks fare in their merchant-banking activities during the next economic downturn will also be followed with great interest.

¹⁶ These capital charges apply to some investments held by state banks under Section 24 of the Federal Deposit Insurance Act. Section 24(d) allows a state bank to hold, through subsidiaries, equity investments that are not permissible for a national bank if the investment poses no harm to the deposit fund and the bank is and continues to be in compliance with applicable capital standards. Under the proposed rule, the FDIC may permit a lower capital deduction for such investments under Section 24 in certain instances. The FDIC and the other banking agencies also reserve the authority to impose higher capital charges where appropriate.

¹⁷ Also exempt are investments held under Section 24(f) of the Federal Deposit Insurance Act. Section 24(f) permits state banks to retain and acquire stock that does not exceed 100 percent of the bank's capital if the bank is located in a state that permitted, as of September 30, 1991, investment in publicly traded companies and registered investment companies, and the bank made or maintained an investment in such securities during the period beginning September 30, 1990, and ending November 26, 1991.

BIBLIOGRAPHY

- Banks, Erik. 1999. The Rise and Fall of the Merchant Banks. Kogan Page Ltd.
- Blair, Christine E. 1994. Bank Powers and the Separation of Banking from Commerce: An Historical Perspective. *FDIC Banking Review* 7, no. 1:28–38.
- Business Week. 2000. What's Really Driving Bank Profits. April 3.
- Cook, Kate W., and Noreen Doyle. 2000. Leveraged Buyouts. In *Handbook of Modern Finance* 2000 Edition, edited by Dennis E. Logue and James K. Seward, E-2: 1–26. Warren, Gorham & Lamont/RIA Group.
- Fenn, George W., Nellie Liang, and Stephen Prowse. December, 1995. The Economics of the Private Equity Market. Staff Study 168, Board of Governors of the Federal Reserve System.
- ——. 2000. The Private Equity Market. In *Handbook of Modern Finance 2000 Edition*, edited by Dennis E. Logue and James K. Seward, D-10: 1–51. Warren, Gorham & Lamont/RIA Group.
- Ferguson, Roger W. 2000. Remarks before the National Association of Urban Bankers, Urban Financial Services Coalition, San Francisco, California. May 26.
- Gensler, Gary. 2000. Remarks before the House Banking Subcommittee on Capital Markets, Securities, and Government Sponsored Enterprises. June 7.
- Greenspan, Alan. 2000. Banking Evolution. Remarks before the 36th Annual Conference on Bank Structure and Competition of the Federal Reserve Bank of Chicago, Chicago, Illinois. May 4.
- Marshall, John F., and M. E. Ellis. 1994. *Investment Banking and Brokerage*. Probus Publishing.
- New York Times. 1999. Old Money Chasing the New. December 24.
- Shorter, Gary. 1999. Financial Modernization Legislation in the 106th Congress: Merchant Banking. Congressional Research Service, Library of Congress.
- Venture Economic News. 2000. Thomson Financial Securities Data and National Venture Capital Association. Various issues.